Name:

## at1110paper_practice_test (v45)

1. Expand the following expression into standard form.

$$(3x - 4)^2$$

$9x^2 - 12x - 12x + 16$

$9x^2 - 24x + 16$

2. Expand the following expression into standard form.

$$(9x + 2)(9x - 2)$$

$81x^2 - 18x + 18x - 4$

$81x^2 - 4$

3. Expand the following expression into standard form.

$$(9x + 8)(6x - 5)$$

$54x^2 - 45x + 48x - 40$

$54x^2 + 3x - 40$

4. Factor the expression.

$$25x^2 - 49$$

$(5x - 7)(5x + 7)$

5. Solve the equation.

$$6x^2 - 20x + 7 \;=\; 3x^2 - 4x + 2$$

$$3x^2 - 16x + 5 = 0$$
$$(3x - 1)(x - 5) = 0$$
$$x = \frac{1}{3} \qquad x = 5$$

6. Solve the equation with factoring by grouping.

$$8x^2 - 12x - 10x + 15 \;=\; 0$$

$$(4x - 5)(2x - 3) = 0$$
$$x = \frac{5}{4} \qquad x = \frac{3}{2}$$

7. Solve the equation.

$$(8x + 5)(9x + 4) \;=\; 0$$

$$x = \frac{-5}{8} \qquad x = \frac{-4}{9}$$

8. Factor the expression.

$$x^2 - 9x + 14$$

$$(x - 7)(x - 2)$$